Middle School Initiative

PART I
COVER SHEET

CAP 6 SEMESTER 1 WEEK 14

COURSE: Cadet Commander and Advisor Leadership Lab, Achievement 16

LESSON TITLE: Creativity

LENGTH OF LESSON: 50 Minutes

METHOD: Informal Lecture - Discussion

REFERENCE:
1. *Leadership: 2000 and Beyond*, Volume III, Chapter 15
2. Buffalo State College Center For Studies in Creativity

AUDIO/VISUAL AIDS/HANDOUTS/ACTIVITY MATERIAL(S):
1. Handout 1 - Creative Problem Solving
2. Transparency
3. Overhead projector

COGNITIVE OBJECTIVE: The objective of this lesson is for each cadet to understand the process and use of creative thinking.

COGNITIVE SAMPLES OF BEHAVIOR: Upon completion of this lesson, each cadet should be able to apply the principles of creativity.

AFFECTIVE OBJECTIVE: N/A

AFFECTIVE SAMPLES OF BEHAVIOR: N/A

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PART II
TEACHING PLAN

Introduction

ATTENTION: Good afternoon and welcome to another lesson in your leadership series.

MOTIVATION: President Abraham Lincoln said, "The US patent system adds the fuel of interest to the fire of genius in the discovery of new and useful things." In 1899, the US commissioner of Patents said, "Everything that can be invented has been invented." In the era of silent films, Mr. H.M. Warner, of Warner Brothers Motion Picture Studios said, "Who the heck wants to hear actors talk?" During his tenure as president of International Business Machines (IBM), Thomas John Watson, Sr., said, "I think there is a world market for maybe five computers." In 1981, Bill Gates, of Microsoft said, "640K memory ought to be enough for anybody."

Wait! Sextus Julius Frontinus (40-103 AD) said, "Inventions have long since reached their limit, and I see not hope for further development." Sextus is best known for his maintenance of the aqueducts of Rome after 79 AD.

OVERVIEW: During our class today, we will learn some history relating to creative thinking, the general rules of brainstorming and finally, where you might apply this "mode."

TRANSITION: *"Write down the thoughts of the moment. Those that come unsought for are commonly the most valuable*."

- Francis Bacon
Father of deductive reasoning
Born 1561, died 1626

Body

MP 1 Creativity has been with us since the dawn of time. History, as recorded in the Holy Bible and other ancient scripts, has shown us that the mind of man and of lower species is constantly striving to invent something to improve the way of life. The nay-sayers have always played down any invention, or thought of an invention, that was not already in place. What we have is all we need. Why go further? Of what good will it be?

The mind of man knows no bounds. In our modern time, Mr. Alex F. Osborn is known as the "father of brainstorming." In 1941, he found that conventional business meetings were stifling the creation of new ideas and proposed some new rules designed to help stimulate these new

ideas. His rules were designed to allow people to "think up" ways to do better things. This process ultimately became known as brainstorming. His rules are:

- No criticism of ideas.
- Go for large quantity of ideas.
- Build on each others ideas.
- Encourage wild and exaggerated ideas.

By following these rules, more ideas were created and this led to a greater quantity of useful ideas. One person came up with an idea and it was further developed by input from others. Through quantity came quality, eventually.

Osborn felt that the creation of "stupid" or "silly" ideas could spark very useful ideas because it changed the way we were thinking. Therefore, any idea that you have about anything that could be changed for the better, regardless of how stupid or silly you might think it is can be worked on by others and ultimately developed into a worthwhile thing.

Let's look back in our own recent history of the electronic age. The first breakthrough in electrical technology is probably the invention of the carbon filament lamp bulb by Thomas Edison, in 1879. In 1895, Gugleilmo Marconi transmitted electrical wireless signals around his house. Next, he set up a huge transmitter in England and a receiver at St. Johns, Newfoundland and on 12 December 1901, the first transatlantic radio signals were sent and received.

Next is the invention of the high-vacuum electron tube in 1912 and the gas filled incandescent lamp in 1913. Irving Langmuir, of the General Electric Company, did these. He assisted in the development of radar (Radio Detecting And Ranging) during World War II.

William P. Lear is most noted for the development of the Learjet aircraft. Prior to that, from World War I on, he was in the electronics business. He designed a practical car radio, which launched what we know as the Motorola Company. Lear designed the eight-track tape player in the 1960s. There are still some of these in use today. He also designed aircraft navigational aids in the '30s and provided millions of dollars in electronics during World War II. In 1962, he turned his talent towards aircraft design turning out his jet aircraft for leading corporations within 5 years.

We could go on and on about creativeness in history, but that would consume many hours, which is not available to us. All of these people I've told you about had an avid interest in creating something better for mankind. A computer that took up space the size of a large classroom now fits on your desk at home or you carry it around as a laptop style computer. A large cumbersome portable radio is now a headset or in your pocket. Creative thinking made these things happen.

MP 2 Each person mentioned previously had an idea that when worked upon by many eventually came to fruition. Prior to the Osborn era of creativity, it is quite possible that all the processes described by him were used to some extent by most creative thinkers.

Let's look more deeply into the rules of brainstorming and see where they lead us.

1. No criticism of ideas. Negative judgments of any idea must be withheld until later.

2. Go for large quantities of ideas. The greater number of ideas, the more likelihood of some winners.

3. Build on each other's ideas. Group participants contribute their own ideas and may suggest how ideas of others can be turned into better ideas; or how two or more ideas can be joined into still another idea.

4. Encourage wild and exaggerated ideas. Freewheeling is definitely encouraged. The wilder the idea, the better it is to tame down than expand upon.

The first rule implies that people will be less likely to be creative if they are constantly criticized. The second rule suggests that the larger the idea pool, the more likely that some of the ideas will be interesting and useable. The third rule encourages committee participants to extend their creative energies beyond thinking up brand new ideas to forge links between or to refine or modify existing ideas. The final rule implies that all ideas should be welcomed at first, and then later, after the brainstorming session is over, the ideas can be refined and made more practical and possible.

Osborn formulated these rules in 1941. In later years, a fifth rule was added and it is: Every person and every idea has equal worth.

Now that you have all these rules, of what use are they? (This is a question that seeks an answer from the class participants. Let them brainstorm for a while.) Brainstorming may be used in a myriad of disciplines within CAP. For instance, problem solving by a team effort can use this mode to generate all the possibilities necessary to resolve the problem. Another use would be for work simplification. All ideas are thrown into the hopper and in time out comes the solution.

Transition: Osborn's rules appear to be very simple in theory and application, right? ---- Applying them to our everyday situations, as little as they really are, may be reasonably beneficial to small problem solving requirements. In 1963, Osborn developed a Creative Problem Solving (CPS) model that went a little deeper than his original concept.

MP 3 This new model contains six steps, which we can use to creatively solve problems.

TRANSPANCENCY LL16.2.1 - Creative Problem Solving Model

- Objective Finding (OF)

  What is the goal, wish, or challenge upon which you want to work?

- Fact Finding (FF)

What's the situation or background? What are all the facts, questions, data, and feelings that are involved?

- Problem Finding (PF)

What is the problem that really needs to be focused on? What concerns really must be addressed?

- Idea Finding (IF)

  What are all the possible solutions for how to solve the problem?

- Solution Finding (SF)

How can you strengthen the solution? How can you select the solutions to know which one will work best?

- Acceptance Finding (AF)

What are all the action steps that must take place in order to implement the solution?

These steps guide the creative process. They inform you on what to do at each step in order to produce one or more workable solutions.

Doctor Sidney J. Parnes, Ph.D., a collaborator of Osborn's, developed a series of questions relating to each of these steps and I will give you a copy of them now for future reference. These can be used for everyday situations on a personal basis or for more complicated organizational problems. (Disburse copies at this time.)

MP 4 Well, there we have it. The way to solve all our problems and generate new ideas for greater and grandiose things of the future through creative thinking.

I'm sure that you know, or believe you know, the definition of the word create. The Heritage Illustrated Dictionary has this to say:

"Create: To cause to exist, bring into being, originate, to give rise to, bring about, produce, to be first to portray and give character to a role or part (appropriate to creating fictional characters and writing stories) creation: an original product of human invention or imagination."

"Creative: Characterized by originality and expressiveness, imaginative."

Conclusion

SUMMARY: During our class today, we have learned some historical facts on creativity, the first rules in creative thinking, and some follow-up rules that really expand on their predecessor. Additionally, you have questions in hand that expand and develop the later rules, and learned the definition of the word create.

REMOTIVATION: In the early 1900s, a French poet by the name of Guillaume Apollinaire wrote the following:

"'Come to the edge', he said,
They said, 'We are afraid.'
'Come to the edge,' he said.
They came,
He pushed.
He pushed them….
And they flew."

Interpretation: The father eagle beckoned to the eaglets and they were scared of the height. Again he beckoned and they approached the nest edge. Father Eagle pushed them out of the nest, the eaglets' wings were spread and they flew to great heights.

Are you ready to fly?

CLOSURE: Read the section on creativity in your text and complete that portion of the chapter review exercise. Have a good afternoon. Dismissed!

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PART III
LESSON REVIEW

LESSON OBJECTIVE(S): The objective of this lesson was for each cadet to become acquainted with the process of creative thinking as it applies to problem solving and the development of new ideas for things to come.

LESSON QUESTIONS: None